FIG. 1

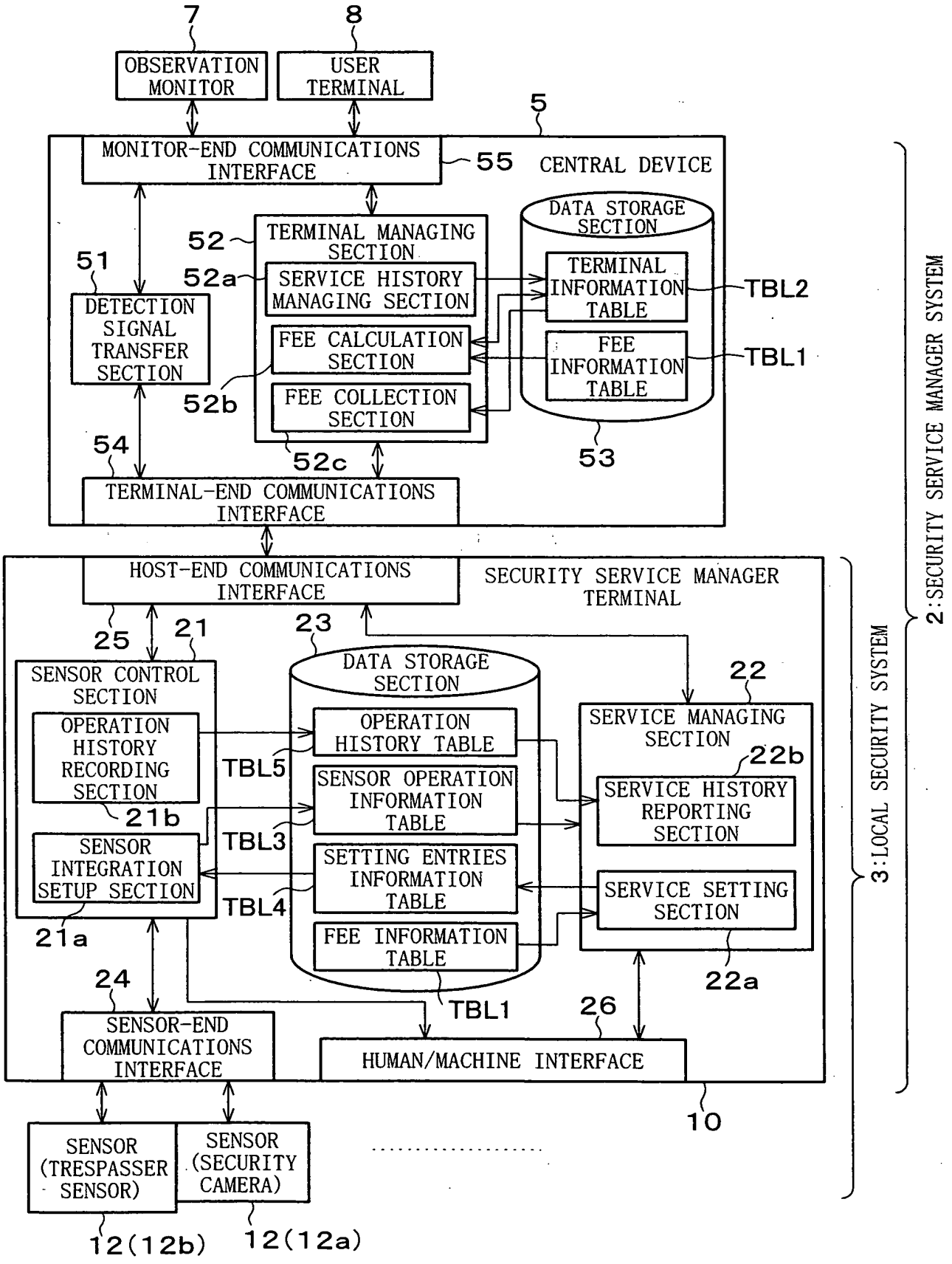

7
8
OBSERVATION MONITOR
USER TERMINAL
5
MONITOR-END COMMUNICATIONS INTERFACE
55
CENTRAL DEVICE
DATA STORAGE SECTION
52
TERMINAL MANAGING SECTION
51
52a
SERVICE HISTORY MANAGING SECTION
TERMINAL INFORMATION TABLE
TBL2
DETECTION SIGNAL TRANSFER SECTION
FEE CALCULATION SECTION
FEE INFORMATION TABLE
TBL1
52b
FEE COLLECTION SECTION
54
52c
53
TERMINAL-END COMMUNICATIONS INTERFACE
HOST-END COMMUNICATIONS INTERFACE
SECURITY SERVICE MANAGER TERMINAL
25
21
23
DATA STORAGE SECTION
22
SENSOR CONTROL SECTION
OPERATION HISTORY RECORDING SECTION
OPERATION HISTORY TABLE
SERVICE MANAGING SECTION
TBL5
22b
SENSOR OPERATION INFORMATION TABLE
SERVICE HISTORY REPORTING SECTION
21b
TBL3
SENSOR INTEGRATION SETUP SECTION
SETTING ENTRIES INFORMATION TABLE
SERVICE SETTING SECTION
TBL4
FEE INFORMATION TABLE
21a
22a
24
TBL1
26
SENSOR-END COMMUNICATIONS INTERFACE
HUMAN/MACHINE INTERFACE
10
SENSOR (TRESPASSER SENSOR)
SENSOR (SECURITY CAMERA)
12(12b)
12(12a)
2:SECURITY SERVICE MANAGER SYSTEM
3:LOCAL SECURITY SYSTEM

FIG. 2

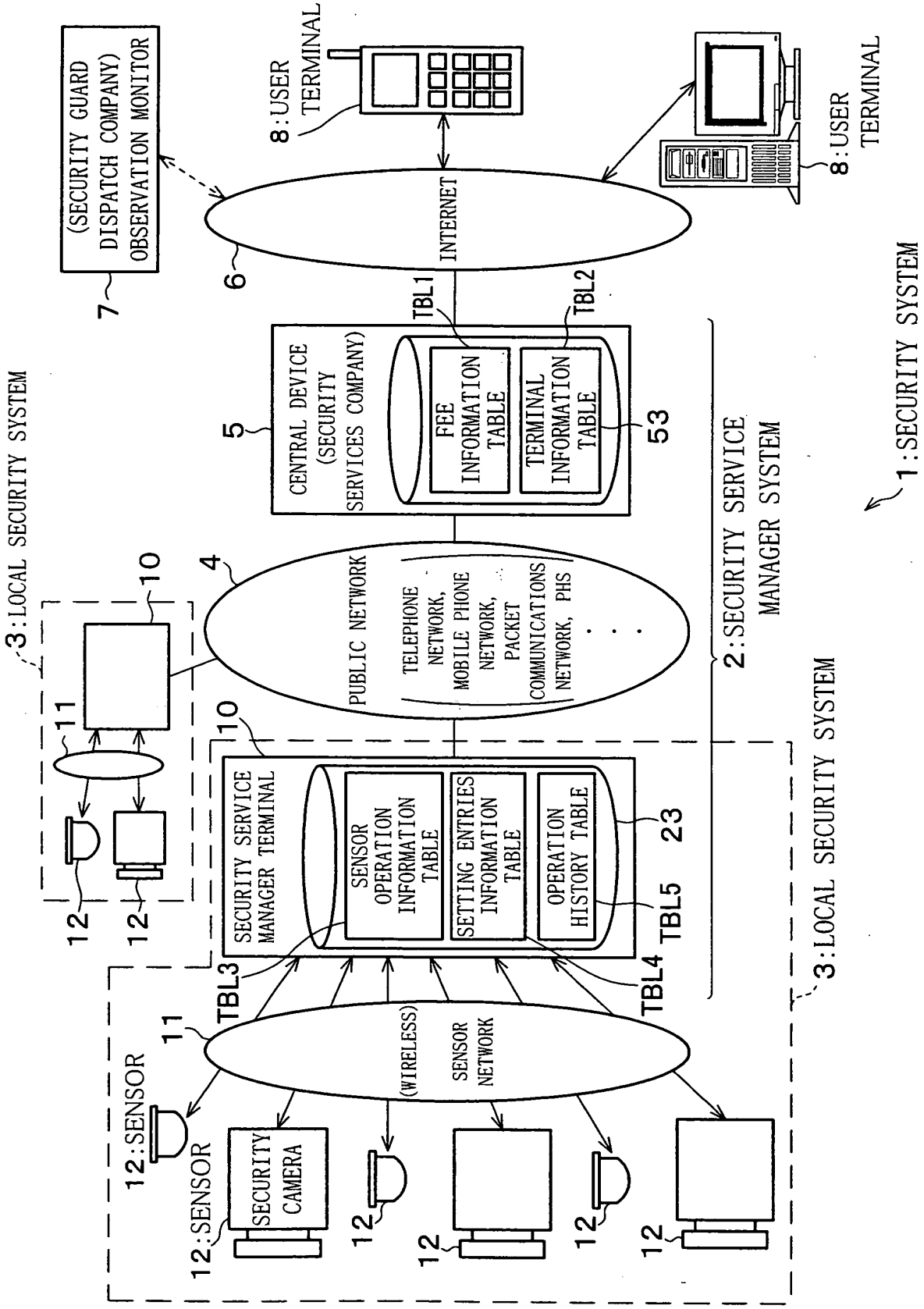

1:SECURITY SYSTEM
2:SECURITY SERVICE MANAGER SYSTEM
3:LOCAL SECURITY SYSTEM
3:LOCAL SECURITY SYSTEM
4
PUBLIC NETWORK
TELEPHONE NETWORK, MOBILE PHONE NETWORK, PACKET COMMUNICATIONS NETWORK, PHS . . .
5
CENTRAL DEVICE (SECURITY SERVICES COMPANY)
TBL1
FEE INFORMATION TABLE
TBL2
TERMINAL INFORMATION TABLE
53
6
INTERNET
7
(SECURITY GUARD DISPATCH COMPANY) OBSERVATION MONITOR
8:USER TERMINAL
8:USER TERMINAL
10
SECURITY SERVICE MANAGER TERMINAL
SENSOR OPERATION INFORMATION TABLE
SETTING ENTRIES INFORMATION TABLE
OPERATION HISTORY TABLE
23
TBL3
TBL4
TBL5
11
(WIRELESS) SENSOR NETWORK
12:SENSOR
12:SENSOR
SECURITY CAMERA
12

FIG. 3

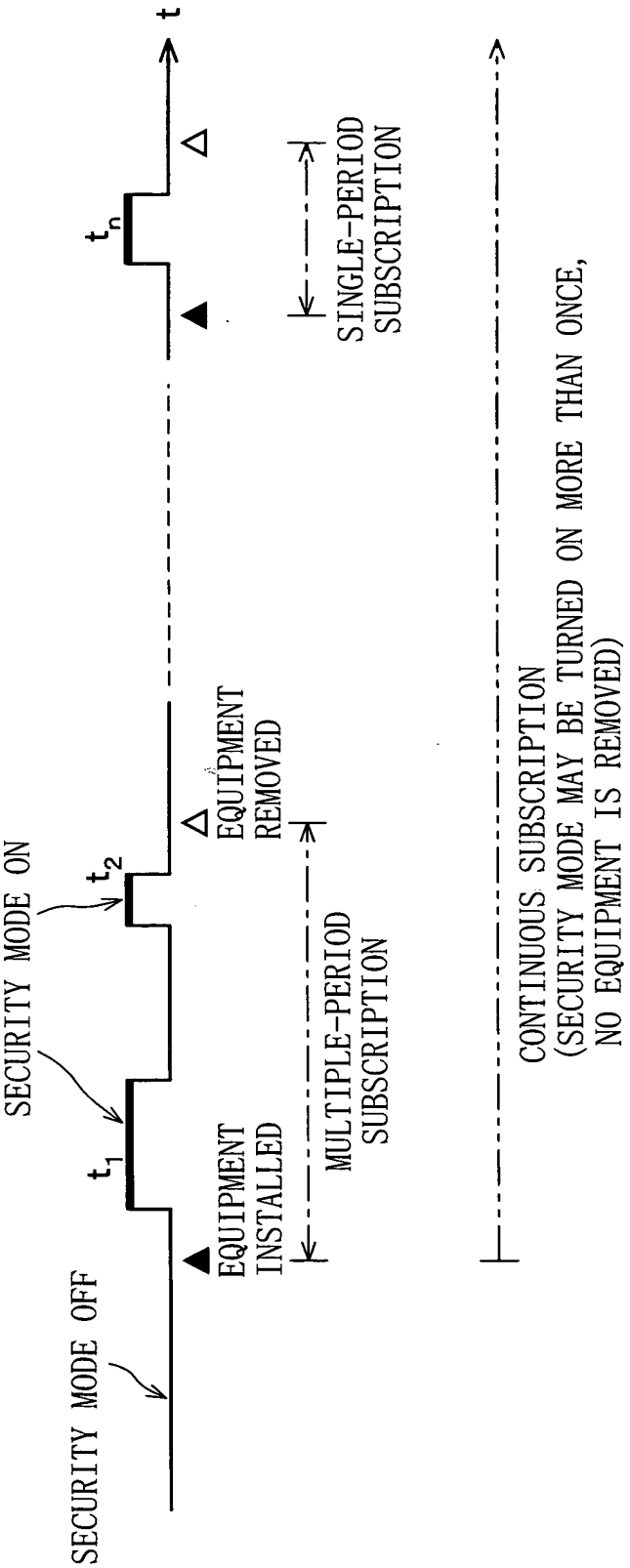

t
SECURITY MODE OFF
SECURITY MODE ON
t_1
t_2
t_n
EQUIPMENT INSTALLED
EQUIPMENT REMOVED
MULTIPLE-PERIOD SUBSCRIPTION
SINGLE-PERIOD SUBSCRIPTION
CONTINUOUS SUBSCRIPTION
(SECURITY MODE MAY BE TURNED ON MORE THAN ONCE, NO EQUIPMENT IS REMOVED)

FIG. 4

FEE INFORMATION TABLE

SECURITY PATTERN / HOUR	SENSOR FEE PER SENSOR	SUBSCRIPTION (COEFFICIENT)
(CHECKED BY USER) (1) ¥100	(TRESPASSER SENSOR) ¥5	(SINGLE) 1.0
(CHECKED BY USER, GUARDS DISPATCHED) (2) ¥200	(OBSERVATION MONITOR) ¥10	(MULTIPLE) 0.9
(USER NEEDS NO ACTION) (3) ¥300		(CONTINUOUS) 0.8

TBL1

FIG. 5

TERMINAL INFORMATION TABLE

START TIME	END TIME	SECURITY PATTERN	SENSOR COUNT	CAMERA COUNT	HOURLY PRICE	USAGE OF SERVICE (HOURS)	BASE FEE	SUBSCRIPTION	TOTAL
0416 2000	0416 2300	(1)	2	1	120	3	360	(CONTINUOUS) 0.8	50, 976
0427 1200	0505 1200	(3)	2	2	330	192	63, 360		
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮		

TBL2

Title: SECURITY SERVICE MANAGER SYSTEM, SECURITY SERVICE MANAGER TERMINAL, SECURITY SERVICE MANAGING METHOD, SECURITY SERVICE MANAGER PROGRAM, AND COMPUTER-READABLE STORAGE MEDIUM CONTAINING PROGRAM
Inventor(s): Kenji KANAYAMA et al.
DOCKET NO.: 036910-0108
5/12
10/511740

FIG. 6

SENSOR OPERATION INFORMATION TABLE

ID CODE	CONNECTION	OPERATION
A0001 (TRESPASSER SENSOR)	CONNECTED	ACTIVATED
A0002 (TRESPASSER SENSOR)	CONNECTED	ACTIVATED
B0001 (OBSERVATION CAMERA)	CONNECTED	ACTIVATED
B0002 (OBSERVATION CAMERA)	DISCONNECTED	DEACTIVATED
⋮	⋮	⋮

TBL3

FIG. 7

SETTING ENTRIES INFORMATION TABLE

SUBSCRIPTION	START TIME	END TIME	SECURITY PATTERN	ACTIVE SENSORS
CONTINUOUS	0416 2000	0416 2300	(1)	A0001 A0002 B0001
	0427 1200	0505 1200	(3)	A0001 A0002 B0001 B0002
	⋮	⋮	⋮	⋮

TBL4

FIG. 8

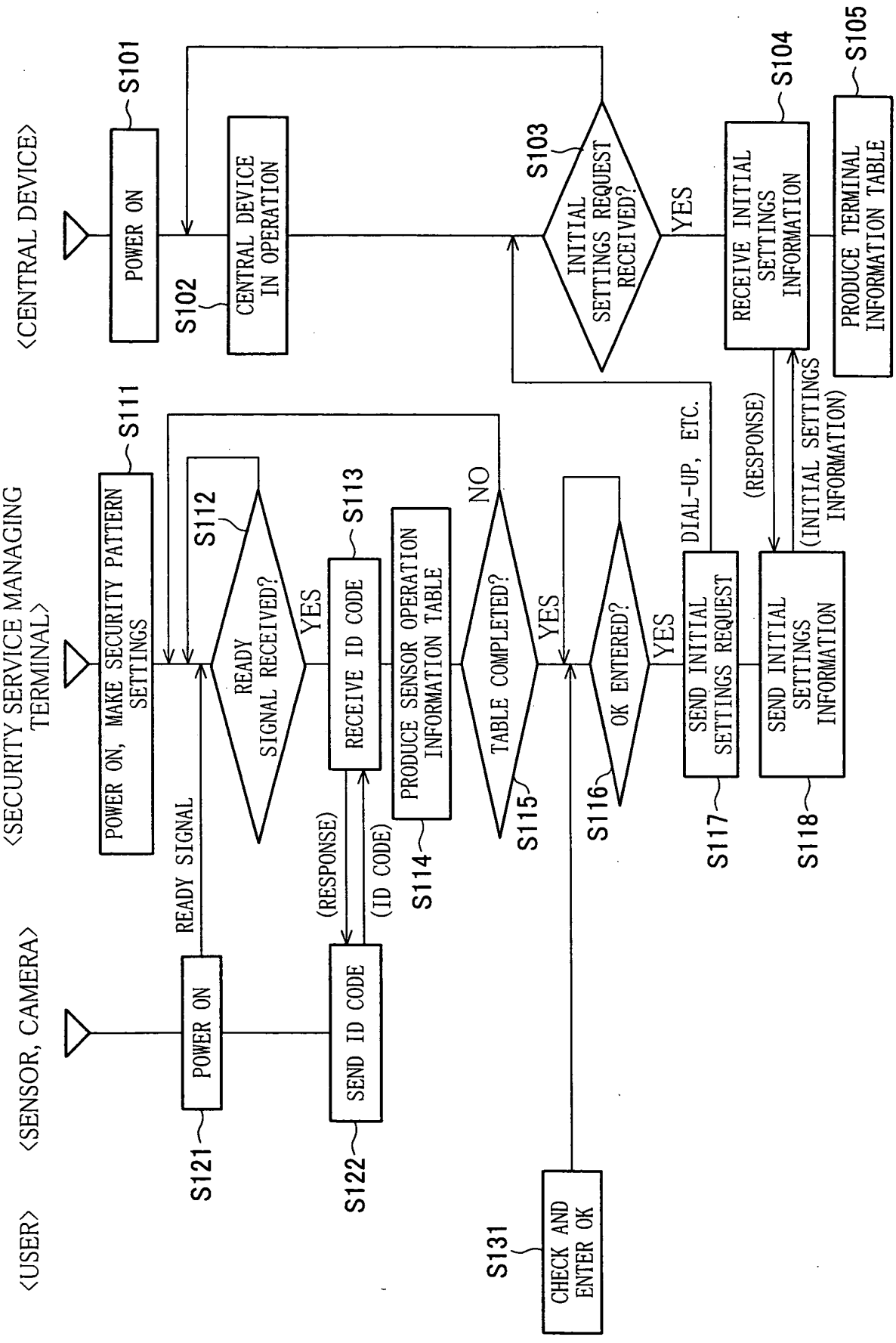

<USER>
<SENSOR, CAMERA>
<SECURITY SERVICE MANAGING TERMINAL>
<CENTRAL DEVICE>
POWER ON
S121
READY SIGNAL
POWER ON, MAKE SECURITY PATTERN SETTINGS
S111
READY SIGNAL RECEIVED?
S112
YES
SEND ID CODE
S122
(RESPONSE)
(ID CODE)
RECEIVE ID CODE
S113
PRODUCE SENSOR OPERATION INFORMATION TABLE
S114
NO
TABLE COMPLETED?
S115
YES
CHECK AND ENTER OK
S131
OK ENTERED?
S116
YES
DIAL-UP, ETC.
SEND INITIAL SETTINGS REQUEST
S117
(RESPONSE)
(INITIAL SETTINGS INFORMATION)
SEND INITIAL SETTINGS INFORMATION
S118
POWER ON
S101
CENTRAL DEVICE IN OPERATION
S102
INITIAL SETTINGS REQUEST RECEIVED?
S103
YES
RECEIVE INITIAL SETTINGS INFORMATION
S104
PRODUCE TERMINAL INFORMATION TABLE
S105

FIG. 9

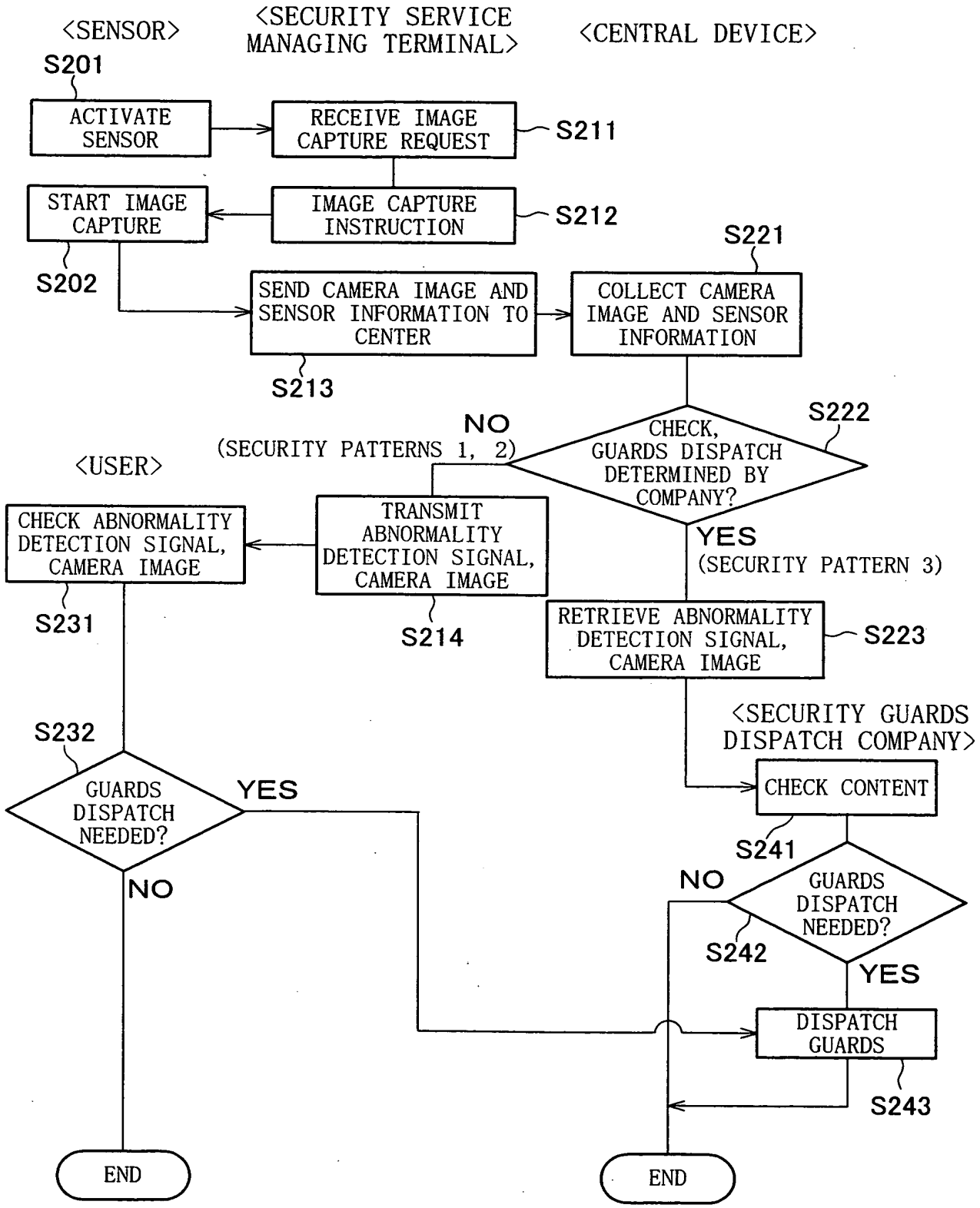

<SENSOR>
<SECURITY SERVICE MANAGING TERMINAL>
<CENTRAL DEVICE>
S201
ACTIVATE SENSOR
RECEIVE IMAGE CAPTURE REQUEST
S211
START IMAGE CAPTURE
IMAGE CAPTURE INSTRUCTION
S212
S202
S221
SEND CAMERA IMAGE AND SENSOR INFORMATION TO CENTER
COLLECT CAMERA IMAGE AND SENSOR INFORMATION
S213
S222
NO
(SECURITY PATTERNS 1, 2)
CHECK, GUARDS DISPATCH DETERMINED BY COMPANY?
<USER>
CHECK ABNORMALITY DETECTION SIGNAL, CAMERA IMAGE
TRANSMIT ABNORMALITY DETECTION SIGNAL, CAMERA IMAGE
YES
(SECURITY PATTERN 3)
S231
S214
RETRIEVE ABNORMALITY DETECTION SIGNAL, CAMERA IMAGE
S223
<SECURITY GUARDS DISPATCH COMPANY>
S232
GUARDS DISPATCH NEEDED?
YES
CHECK CONTENT
S241
NO
GUARDS DISPATCH NEEDED?
S242
YES
DISPATCH GUARDS
S243
NO
END
END

FIG. 10

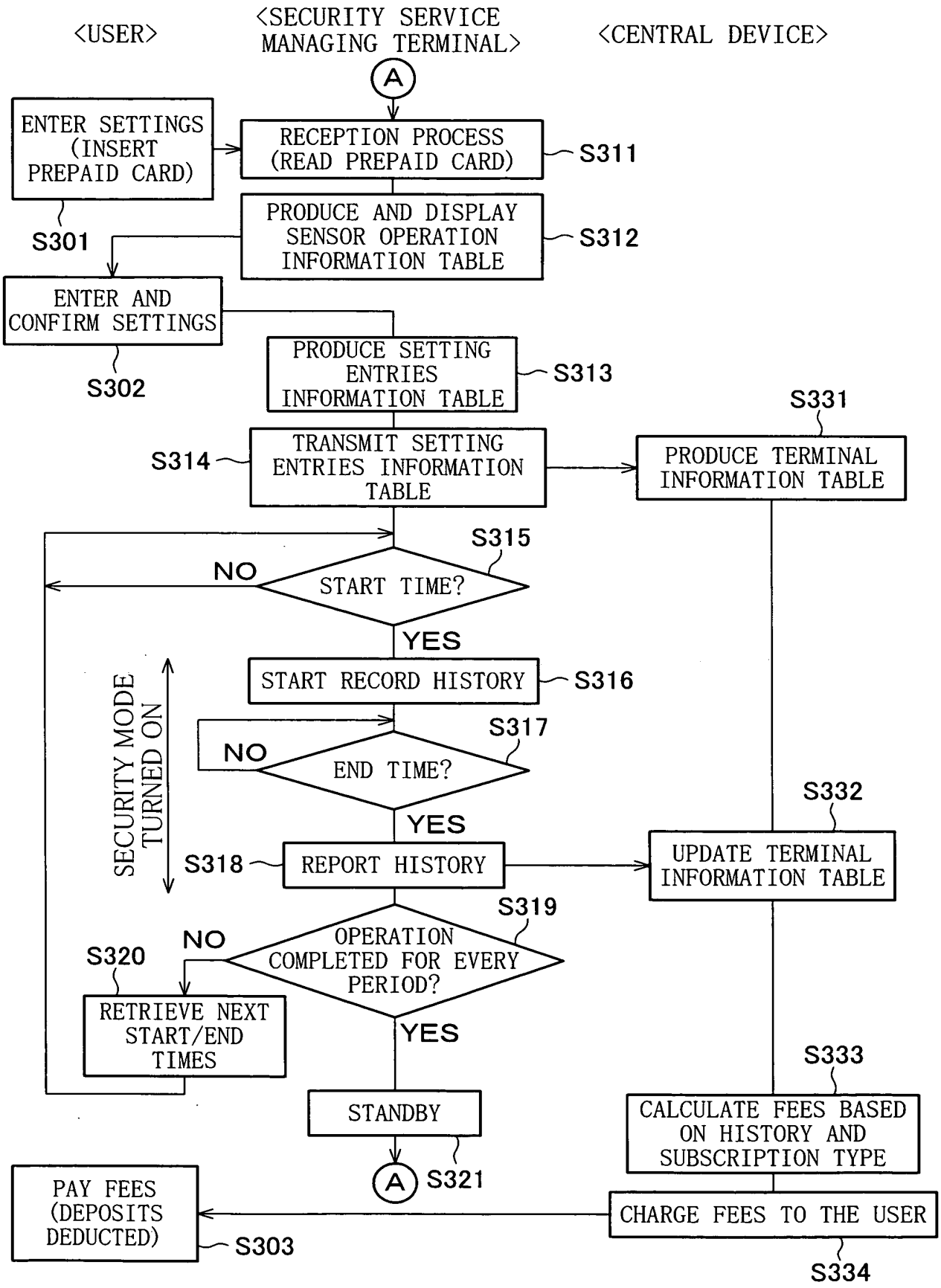

<USER>
<SECURITY SERVICE MANAGING TERMINAL>
<CENTRAL DEVICE>
A
ENTER SETTINGS (INSERT PREPAID CARD)
S301
RECEPTION PROCESS (READ PREPAID CARD)
S311
PRODUCE AND DISPLAY SENSOR OPERATION INFORMATION TABLE
S312
ENTER AND CONFIRM SETTINGS
S302
PRODUCE SETTING ENTRIES INFORMATION TABLE
S313
S331
S314
TRANSMIT SETTING ENTRIES INFORMATION TABLE
PRODUCE TERMINAL INFORMATION TABLE
S315
NO
START TIME?
YES
SECURITY MODE TURNED ON
START RECORD HISTORY
S316
S317
NO
END TIME?
YES
S332
S318
REPORT HISTORY
UPDATE TERMINAL INFORMATION TABLE
S319
S320
NO
OPERATION COMPLETED FOR EVERY PERIOD?
RETRIEVE NEXT START/END TIMES
YES
S333
STANDBY
CALCULATE FEES BASED ON HISTORY AND SUBSCRIPTION TYPE
A
S321
PAY FEES (DEPOSITS DEDUCTED)
S303
CHARGE FEES TO THE USER
S334

FIG. 11

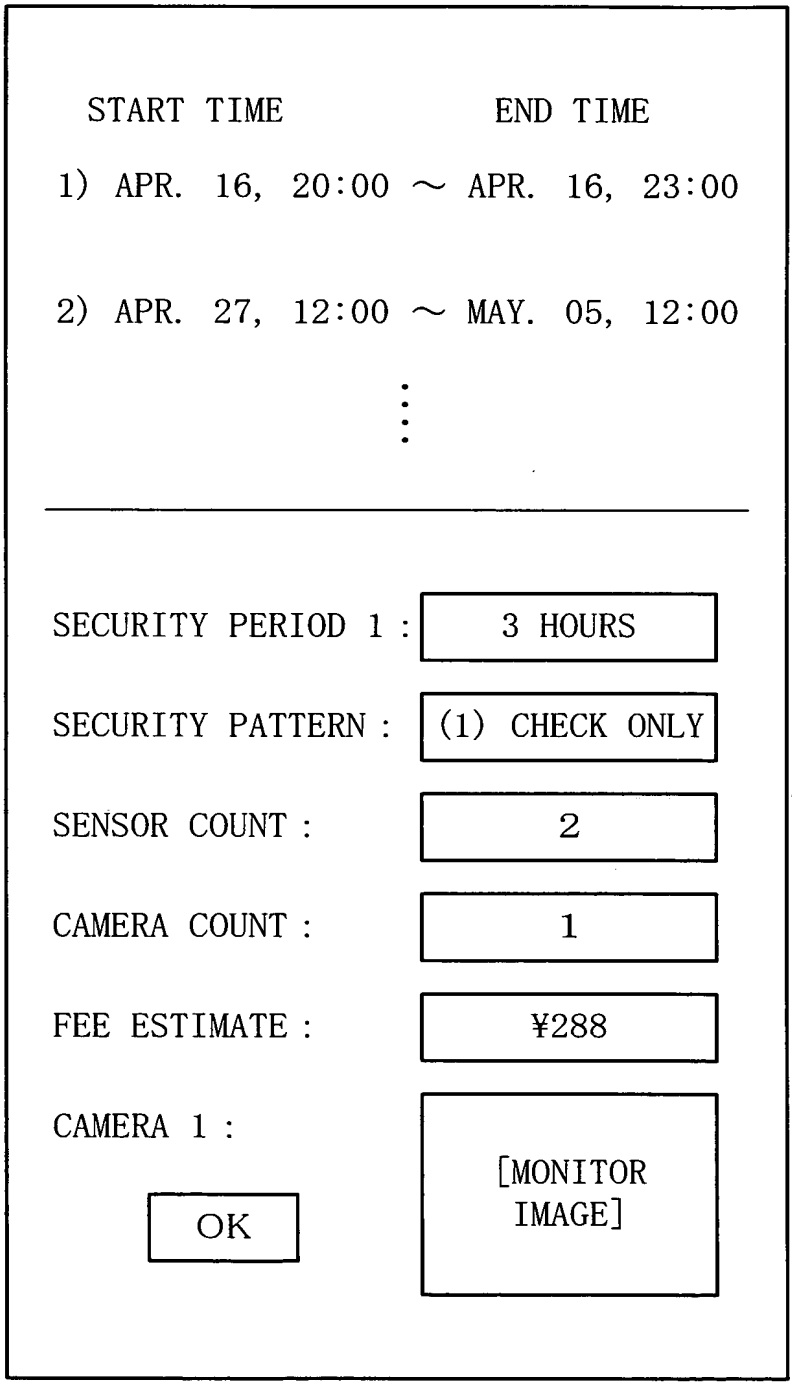

START TIME
END TIME
1) APR. 16, 20:00 ~ APR. 16, 23:00
2) APR. 27, 12:00 ~ MAY. 05, 12:00
SECURITY PERIOD 1 :
3 HOURS
SECURITY PATTERN :
(1) CHECK ONLY
SENSOR COUNT :
2
CAMERA COUNT :
1
FEE ESTIMATE :
¥288
CAMERA 1 :
[MONITOR IMAGE]
OK

FIG. 12

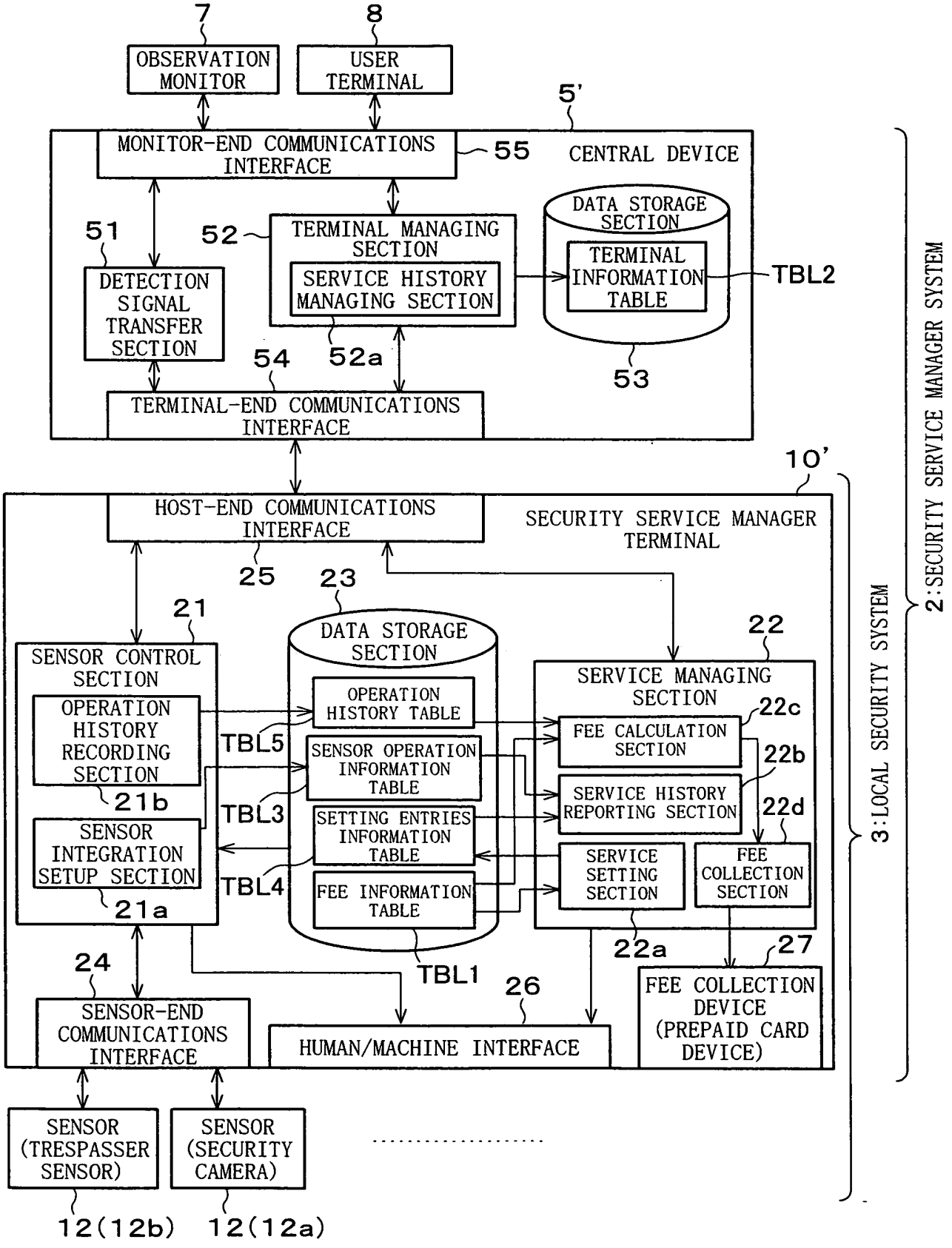
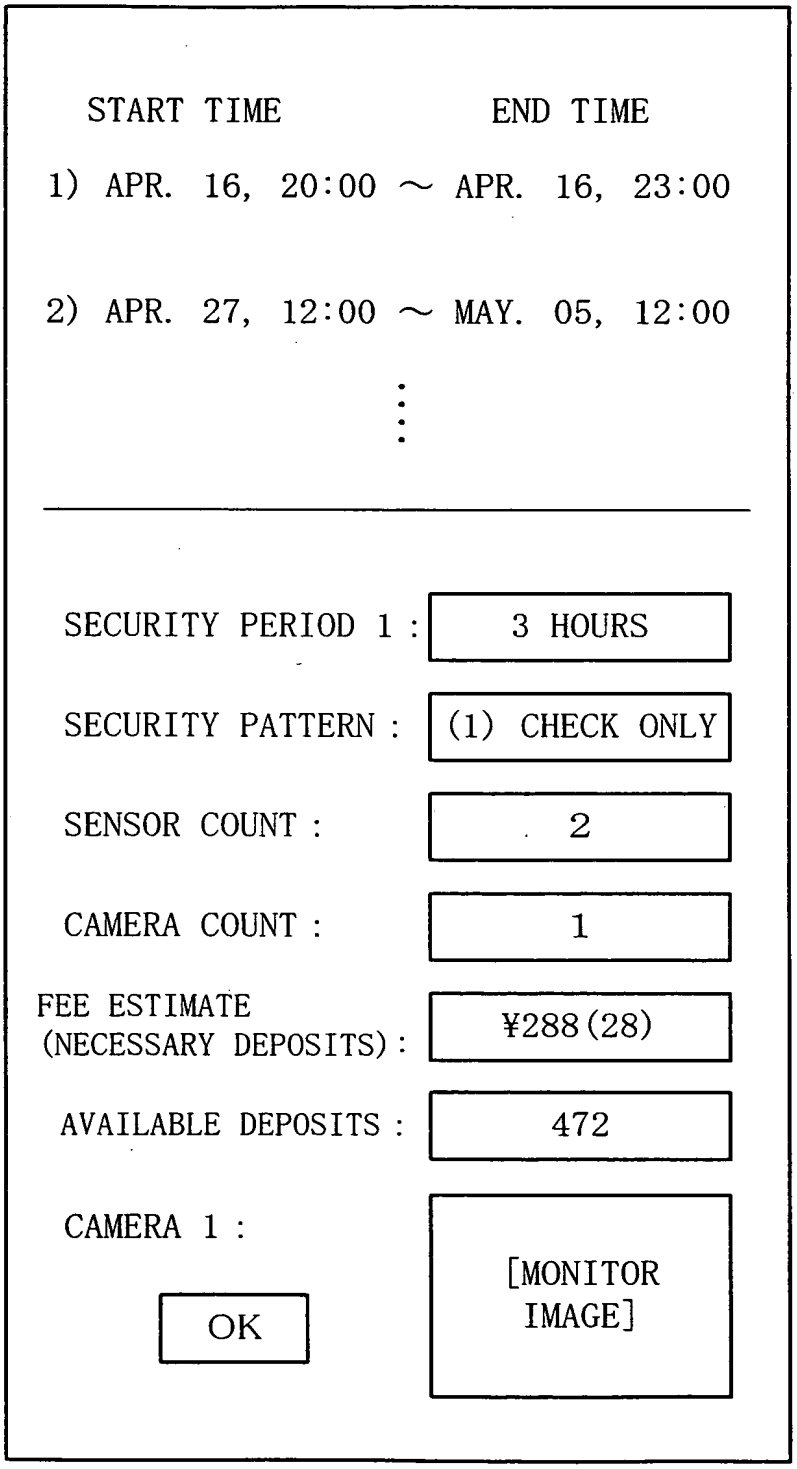

7
8
OBSERVATION MONITOR
USER TERMINAL
5'
MONITOR-END COMMUNICATIONS INTERFACE
55
CENTRAL DEVICE
DATA STORAGE SECTION
51
52
TERMINAL MANAGING SECTION
SERVICE HISTORY MANAGING SECTION
TERMINAL INFORMATION TABLE
TBL2
DETECTION SIGNAL TRANSFER SECTION
54
52a
53
TERMINAL-END COMMUNICATIONS INTERFACE
10'
HOST-END COMMUNICATIONS INTERFACE
SECURITY SERVICE MANAGER TERMINAL
25
23
21
22
SENSOR CONTROL SECTION
DATA STORAGE SECTION
SERVICE MANAGING SECTION
OPERATION HISTORY TABLE
22c
FEE CALCULATION SECTION
OPERATION HISTORY RECORDING SECTION
TBL5
SENSOR OPERATION INFORMATION TABLE
22b
SERVICE HISTORY REPORTING SECTION
21b
TBL3
SETTING ENTRIES INFORMATION TABLE
22d
SENSOR INTEGRATION SETUP SECTION
TBL4
FEE INFORMATION TABLE
SERVICE SETTING SECTION
FEE COLLECTION SECTION
21a
22a
27
TBL1
24
26
FEE COLLECTION DEVICE (PREPAID CARD DEVICE)
SENSOR-END COMMUNICATIONS INTERFACE
HUMAN/MACHINE INTERFACE
SENSOR (TRESPASSER SENSOR)
SENSOR (SECURITY CAMERA)
12(12b)
12(12a)
2:SECURITY SERVICE MANAGER SYSTEM
3:LOCAL SECURITY SYSTEM

FIG. 13


START TIME
END TIME
1) APR. 16, 20:00 ~ APR. 16, 23:00
2) APR. 27, 12:00 ~ MAY. 05, 12:00
SECURITY PERIOD 1 :
3 HOURS
SECURITY PATTERN :
(1) CHECK ONLY
SENSOR COUNT :
2
CAMERA COUNT :
1
FEE ESTIMATE (NECESSARY DEPOSITS) :
¥288(28)
AVAILABLE DEPOSITS :
472
CAMERA 1 :
[MONITOR IMAGE]
OK